

How to Use the New Grade-Level Expectations to Enhance Curriculum

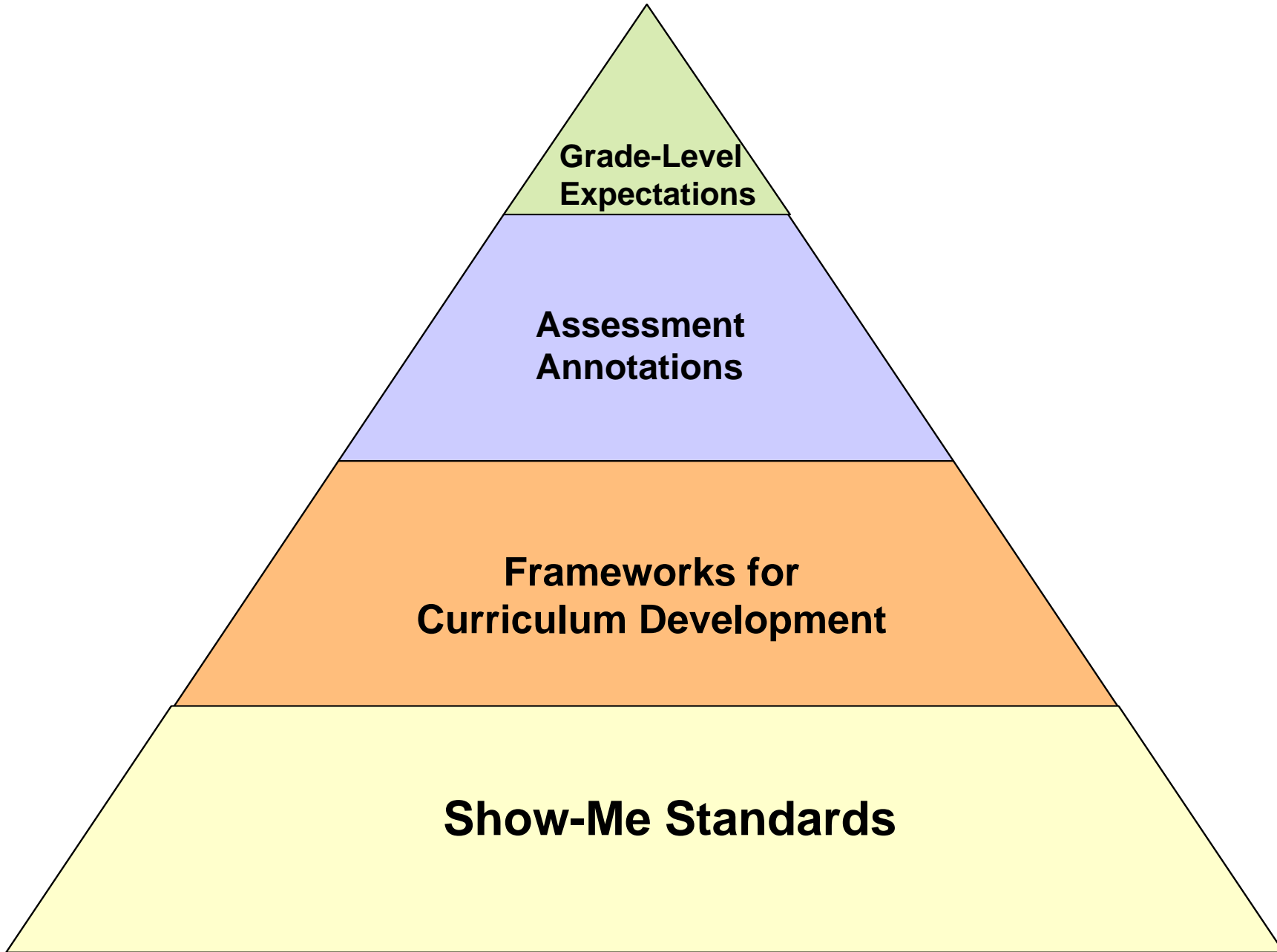


Questions we will address today . . .

- What are the Grade-Level Expectations and how should they inform the development and refinement of district curriculum?
- What are the implications of the No Child Left Behind Act for the MAP and for district assessment programs?

Grade-Level Expectations

- We have developed “Grade-Level Expectations” for mathematics, communication arts, science, and social studies. These expectations are yours to adopt, adapt, or (gasp!) ignore.
- These Expectations will form the foundation—the “measurable learner objectives”—for the model curriculum.



Grade-Level Expectations

- Aligned to Show-Me Standards (Content and Process)
- Vertically aligned (within discipline) from one grade to next
- Derived from discipline's "big ideas/concepts"
- Informed by national standards, state documents, local guides
- Developed through inclusive process that involved over one thousand Missouri educators

Writing Teams

- K-12 teachers
- Content specialists
- Educators from urban as well as rural districts
- Educators from large as well as small districts
- Higher education representatives

These resources informed the Communication Arts Expectations:

- Show-Me Standards, Framework for Curriculum Development in Communication Arts, and MAP documents
- NAEP Reading and Writing Frameworks
- NCTE and IRA Standards for English Language Arts
- McREL Language Arts Standards
- CIERA - Every Child A Reader
- NIFL – Put Reading First
- School district curriculum documents
- Curriculum documents from other states

These resources informed the Mathematics Expectations:

- National Council of Teachers of Mathematics (NCTM) Standards
- Framework for Curriculum Development in Mathematics and MAP documents
- National Assessment of Educational Progress (NAEP) Mathematics Framework

2 Develop and apply skills and strategies to comprehend, analyze and evaluate fiction, poetry and drama from a variety of cultures and times

	GRADE K	GRADE 1	GRADE 2	
A	Locate and apply information in title, pictures and names of author and illustrator, with assistance	Locate and apply information in title, pictures and names of author and illustrator	Locate and apply specific information in title, pictures and table of contents	
Text Features				
ST	CA 3 1.5, 1.6	CA 3 1.5, 1.6	CA 3 1.5, 1.6	
FR	I 1b, g, 2g, K-4	I 1b, g, 2g, K-4	I 1b, g, 2g, K-4	
B	Respond to rhythm , rhyme and alliteration in oral reading of poetry and prose	Read and respond to rhythm, rhyme and alliteration in poetry and prose	Identify author's use of rhythm, rhyme and alliteration in poetry and prose, with assistance	
Figurative Language				
ST	CA 2 1.5, 1.6	CA 2 1.5, 1.6	CA 2 1.5, 1.6	
FR	I 1i, 5e, K-4	I 1i, 5e, K-4	I 1i, 5e, K-4	

Grade-Level Expectations are on the Web at....

<http://www.dese.state.mo.us/divimprove/curriculum/index.html>

Communication Arts

Grade-Level Expectations

Communication Arts

Big Picture

Four Strands

- ✓ **Reading**
- ✓ **Writing**
- ✓ **Listening and Speaking**
- ✓ **Information Literacy**

Reading Strand

Subdivisions

Develop and apply ...

- 1. skills and strategies to the reading process.**
- 2. skills and strategies to comprehend, analyze, and evaluate fiction, poetry, and drama from a variety of cultures/times.**
- 3. skills and strategies to comprehend, analyze, and evaluate nonfiction (such as biographies, newspapers, technical manuals) from a variety of cultures/times.**

1. Reading Strategies

Skills and Concepts (all grades unless indicated)

- A. Print Concepts (K, 1)**
- B. Phonemic Awareness (K, 1)**
- C. Phonics**
- D. Fluency**
- E. Vocabulary**
- F. Pre-Reading**
- G. During Reading**
- H. Post-Reading**
- I. Making Connections**

2. Reading Fiction Strategies

Skills and Concepts

A. Text Features

B. Figurative Language

C. Text Elements

3. Reading Non-Fiction Strategies

Skills and Concepts

- A. Text Features**
- B. Figurative Language**
- C. Text Elements**
- D. Understanding Directions**

Writing Strand

Subdivisions

1. Apply a writing process in composing text. (stands alone)
2. Compose well-developed text using standard English conventions.
3. Write effectively in various forms and types of writing.

2. Writing Well-Developed Text Skills and Concepts

- A. Handwriting (K-3)**
- B. Capitalization**
- C. Punctuation**
- D. Parts of Speech (1-12)**
- E. Spelling**
- F. Sentence Construction**

3. Writing Various Forms Skills and Concepts

- A. Narrative Writing (K-6, 9-12)**
- B. Note-Taking (2-12)**
- C. Expository Writing (includes persuasive)**
- D. Summary Writing (5-12)**
- E. Audience and Purpose**

Listening and Speaking Strand

Subdivisions and Concepts/Skills

- 1. Develop/apply effective listening skills and strategies.**
 - A. Purpose for Listening**
 - B. Listening Behavior**
- 2. Develop and apply effective speaking skills and strategies for various audiences and purposes.**
 - A. Discussion and Presentation**
 - B. Giving Directions**

Information Literacy Strand

Subdivisions and Concepts/Skills

- 1. Develop/apply research process skills to gather, analyze and evaluate information.**
 - A. Research Plan**
 - B. Acquire Information (2-12)**
 - C. Record Information (4-12)**
 - D. Sources**
- 2. Develop/apply effective skills/strategies to analyze and evaluate oral and visual media.**

Communication Arts

Basis for Decisions

1. We were able to answer **YES** to these overriding questions.

- ✓ Do ALL Missouri students need this skill?
- ✓ Are we spiraling the curriculum so that each year builds on previous years?
- ✓ Are we coordinating content – i.e., when we expect students to recognize “theme” in Reading, do we take advantage of the teaching and have it in “Writing” also?

Communication Arts

Basis for Decisions

2. We operated from these understandings about Communication Arts--

- ✓ **Communication Arts is a recursive curriculum.**
- ✓ **Communication Arts is not a linear curriculum; therefore, there are more pieces of independent curriculum.**
- ✓ **Because of the above, too often texts and, at times, teachers try to cover it all. We had to address this problem and choose specific content for grade levels.**

Implications of the Grade Level Expectations

Communication Arts

Characteristic	Implication to Districts
<p>Four Major Strands:</p> <ul style="list-style-type: none"> ✓ Reading ✓ Writing ✓ Listening & Speaking ✓ Media Literacy 	<p>Check district curriculum. These standards were in the original state documents.</p> <p><u>Steps Needed:</u></p> <ul style="list-style-type: none"> ✓ Review curriculum. ✓ Check for all four areas and all sub-areas. <p>Example:</p> <p>Reading includes:</p> <ul style="list-style-type: none"> ✓ reading process, ✓ fiction, and ✓ non-fiction.

Characteristic	Implication to Districts
<p>37 Skills/Concepts</p>	<p>Check district curriculum. Most of these skills/concepts were in the original state documents, though some were implied.</p> <p><u>Steps Needed:</u></p> <ul style="list-style-type: none"> ✓ Review curriculum. ✓ Check for all skills. <p>Example:</p> <p>Reading non-fiction includes:</p> <ul style="list-style-type: none"> ✓ text features, ✓ figurative language, ✓ text elements, and ✓ understanding directions.

Characteristic

- ✓ Words are in bold when first appear.
- ✓ All bolded words are defined in the glossary, which will accompany the document.

Implication to Districts

Districts will want to examine their definitions against document definitions to determine alignment.

Example:

“Thesis statement” is

- ✓ the paper’s topic or
- ✓ the point the writer will prove.

Thesis statement in this document (Writing 3C -- 12) means advocating a side or proving a point.

Characteristic

Skills spiral in two ways:

Reading, 1D – Fluency (2)
in place by 3rd grade but used
in grades 4-12

**Reading, 2C –in Fiction
Text Elements (5)**
each year, new skills are
added so that students
constantly adding to their
ability to analyze fiction.

Implication to Districts

To check the skills:

Trace key skills to be sure
they are in every grade.

**Check the grade level the
district expects skills**
versus the grade level the
state expects the same skill.

- ✓ If aligned – no change.
- ✓ If not – decide if/how
to change.

Characteristic

So that teachers are not trying to teach all skills, specific skills have been assigned to each grade level.

Implication to Districts

Check the grade level the district expects skills versus the grade level the state expects the same skill.

- ✓ If aligned – no change.
- ✓ If not – decide if/how to change.

Example:

**Writing 2C Punctuation (9)
grade 4 -- commas in a series
Check to see when it's taught
in your district.**

Characteristic

Because time is a crucial factor, teachers must be able to teach/assess multiple areas.

Implication to Districts

As teachers examine this document and plan for instruction, pay attention to purposeful overlap and take advantage of it.

Example: 7th grade
“Theme” is expected
Reading (2C – 5) and
Writing (3C –12)
In writing, teachers could
also assess for structure,
conventions, and grammar.

Resources for Communication Arts*

(Each author has written multiple books.)

- **Harvey, Stephanie et al. (2002). *Strategies that work: Teaching comprehension to enhance understanding*. Stenhouse Publisher. ISBN 1571103104**
- **Johns, Jerry L. et al. (2001). *Improving reading: Strategies and resources*. Kendall Hunt. ISBN 0787276146**
- **Joyce, Bruce et al. (2003). *Models of teaching, 7th ed.* Pearson, Allyn Bacon. ISBN 0205389279**
- **Sousa, David. (2000). *How the brain learns*. Corwin Press. ISBN 061977651**

What do the Communication Arts GLEs mean for your work?

- How well is your communication arts curriculum aligned to the GLEs?
- What step(s) must you take to ensure curriculum alignment?
- What will you do to support alignment of instruction? What do teachers need?
- What are your concerns and/or questions?

Mathematics

Grade-Level Expectations

Show-Me Standards (Mathematics)

1. Number Sense
2. Geometry/Measurement
3. Patterns and Relationships
4. Data and Probability
5. Number Systems
6. Discrete

Mathematics Expectations

1. Number and Operations
2. Algebraic Relationships
3. Geometric and Spatial Relationships
4. Measurement
5. Data and Probability

Expectations for mathematics . . .

- Allow us to view mathematics as a system
- Promote conceptual understanding across grade levels
- Emphasize algebraic and geometric thinking at early grades
- Encourage clusters of ideas
- Involve children in doing mathematics

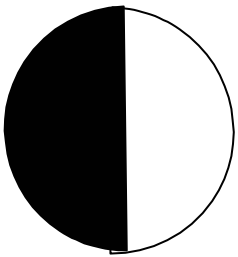
Mathematics Algebraic Relationships

1. Understand patterns, relations and functions

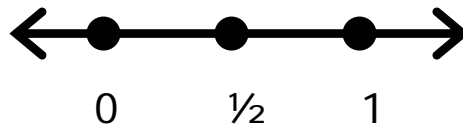
	Kindergarten	Grade 1	Grade 2	Grade 3
A	recognize or repeat sequences of sounds or shapes	extend patterns of sound, shape, motion or a simple numeric pattern	describe and extend simple numeric patterns and change from one representation to another	extend geometric (shapes) and numeric patterns to find the next term
Recognize and extend patterns				
ST	MA 4 1.6	MA 4 1.6	MA 4 1.6	MA 4 1.6
FR	VIII.a	VIII.a	VIII.1.b	VIII.a
B	create and continue patterns	describe how simple <u>repeating patterns</u> are generated	describe how simple <u>growing patterns</u> are generated	represent patterns using words, tables or graphs
Create and analyze patterns				
ST		MA 4 1.6, 3.5	MA 4 1.6, 3.5	MA 4 3.6
FR		VIII.a	VIII.a	VIII.3.a

Concept Level

Strand: Number and Operations
Big Idea: 1
Concept: B

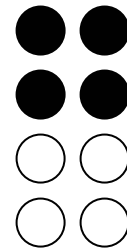


$$\frac{1}{2}$$



$$\frac{7}{14}$$

0.5



50%

Looking At Individual Grades

Strand: Algebraic Relationships
Big Idea: 1
Concept: B Create and Analyze Patterns

Grade 1

Describe how simple repeating patterns are generated.



Grade 2

Describe how simple growing patterns are generated.

5, 7, 9, 11, _____

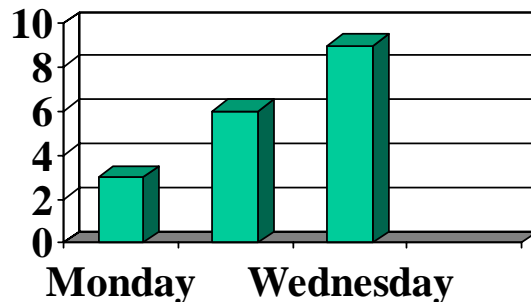
Grade 3

Represent patterns using words, tables or graphs

Students	1	2	3	4	5
Books Read	3	6	9		

Grade 4

Analyze patterns using words, tables and graphs



Describe the pattern and predict what will happen on Thursday.

Grade 5

Represent and analyze patterns using words, tables and graphs

**Given the pattern
3, 6, 12, 24,**

Write a pattern with the same rule, if the first number is 5.

Grade 6

Represent and describe patterns with tables, graphs, pictures, symbolic rules or words

From the pattern in the table below, determine the value for the n^{th} term.

1	2	3	4		N
6	7	8	9		

Grade 7

Analyze patterns represented graphically or numerically using words or symbolic rules, including recursive notation

Determine the value of y when $x = 3$ and when $x = n$

X	1	3	4	7	N
Y	8		11	14	

when
when

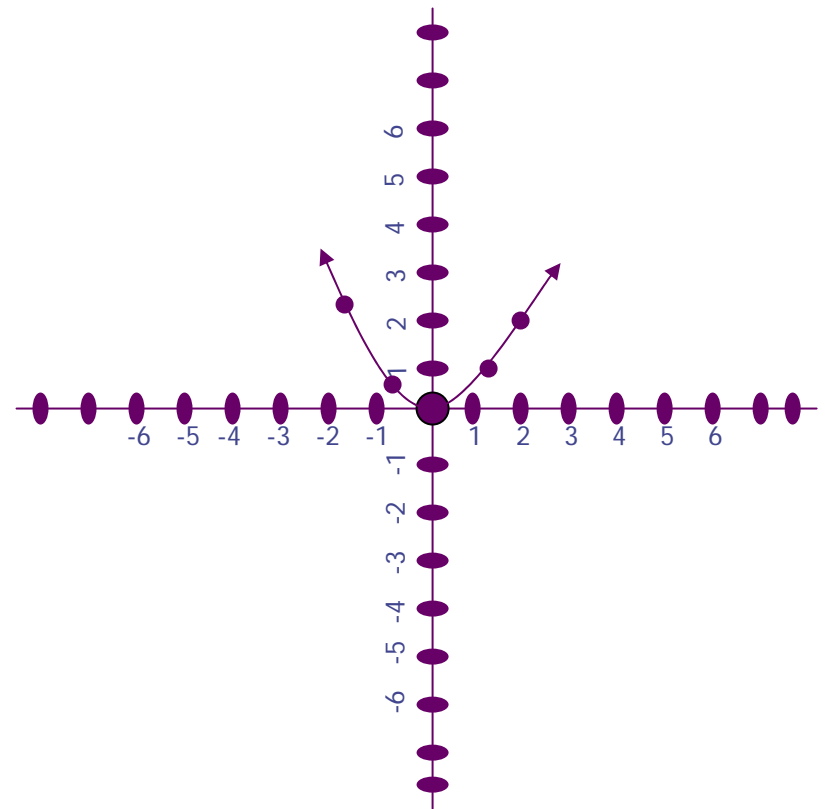
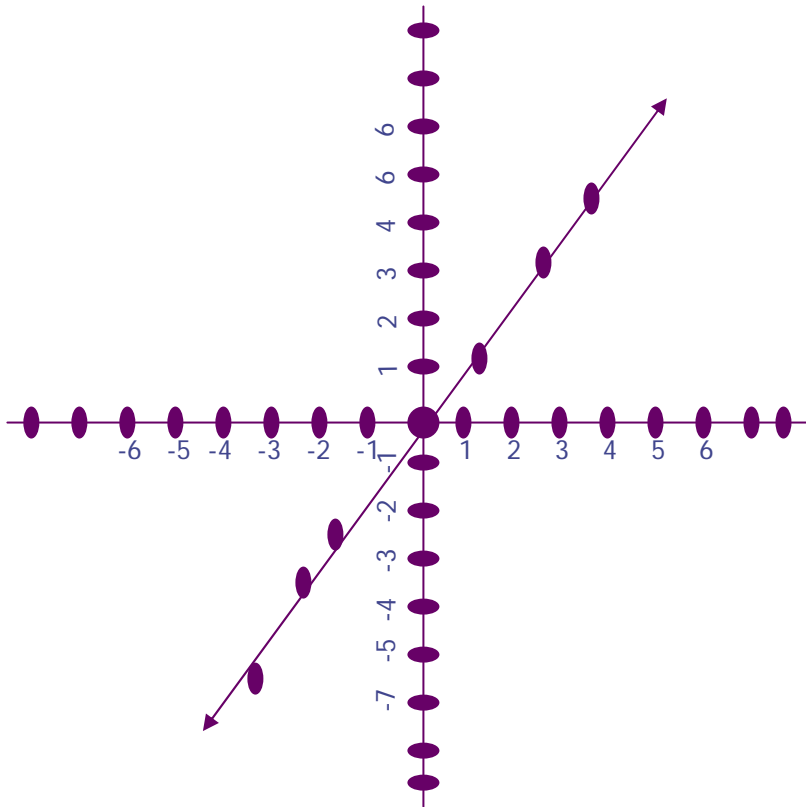
$x=3$
 $x=n$

$y=10$
 $y= n + 7$

Grade 8

Generalize patterns represented graphically or numerically using words or symbolic rules, including recursive notation

Write an equation for the following graphs:



Making Connections Across Grade Levels

Strand:	Number and Operations
Big Idea:	3
Concept:	A
Grade:	4

Represent a mental strategy used to compute a given multiplication problem.

Group Exercise

$$\begin{array}{r} 23 \\ \times 15 \\ \hline \end{array}$$

Possible Strategies

a.

$$\begin{array}{r} 23 \\ \times 15 \\ \hline 115 \\ 23 \\ \hline 345 \end{array}$$

b.

$$\begin{array}{r} 23 \\ \times 15 \\ \hline 45 \\ 300 \\ \hline 345 \end{array}$$

Possible Strategies

c.

$$\begin{array}{r} 23 \\ \times 15 \\ \hline 15 \\ 100 \\ 30 \\ \hline 200 \\ \hline 345 \end{array}$$

d.

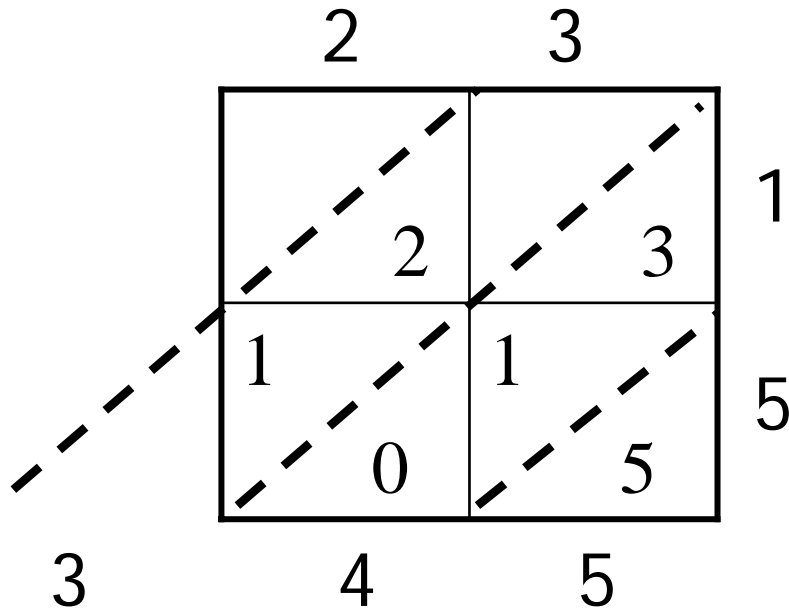
$$\begin{array}{l} 23 \times 15 = \\ 23 \times 30 = 690 \\ \div 2 = 345 \end{array}$$

Possible Strategies

e.

$$\begin{array}{r} 23 \times 10 = 230 \\ 23 \times 5 = \underline{115} \\ 345 \end{array}$$

f.



Possible Strategies

g.
$$\begin{aligned} 23 \times 15 &= 23 \times (10 + 5) \\ &= (23 \times 10) + (23 \times 5) \\ &= 230 + 115 \\ &= 345 \end{aligned}$$

(Distributive Property)

Algebraic connections

$$\begin{aligned} a \times (b + c) \\ &= (a \times b) + b \times c \\ &= ab + bc \end{aligned}$$

Possible Strategies

h.

$$\begin{array}{r} 23 = \\ \times 15 = \\ \hline 100 + 15 \\ 200 + 30 \\ \hline 200 + 130 + 15 \end{array}$$

Algebraic connections

$$\begin{array}{r} 2x + 3 \\ \times x + 5 \\ \hline 10x + 15 \\ 2x^2 + 3x \\ \hline 2x^2 + 13x + 15 \end{array}$$

Possible Strategies

i.
$$\begin{aligned} 23 \times 15 &= (20 + 3) \times (10 + 5) \\ &= 20 \times 10 + 20 \times 5 + 3 \times 10 + 3 \times 5 \\ &= 200 + 100 + 30 + 15 \\ &= 345 \end{aligned}$$

Algebraic connections

$$\begin{aligned} (2x + 3)(x + 5) \\ &= 2x^2 + 10x + 3x + 15 \\ &= 2x^2 + 13x + 15 \end{aligned}$$

Possible Strategies

j.

	20	3
5	100	15
10	200	30

Sum of Areas = 345

DESE/Oct 2003

What strategy did you use? Why?

Conceptual Understanding

$$1 \frac{3}{4} \div \frac{1}{2}$$

Find how many halves ($\frac{1}{2}$ s) there are in $1 \frac{3}{4}$.

(Measurement or quotitive)

$$1 \frac{3}{4} \text{ ft} \div \frac{1}{2} \text{ ft} = \frac{7}{2}$$

Find a number such that $\frac{1}{2}$
of it is $1\frac{3}{4}$.

(Partitive)

$$1\frac{3}{4} \text{ ft} \div \frac{1}{2} = 7/2 \text{ ft}$$

Find a factor that multiplied by $\frac{1}{2}$ will make $1 \frac{3}{4}$.

(Product or factor)

$$1 \frac{3}{4} \text{ sq ft} \div \frac{1}{2} \text{ ft} = 7/2 \text{ ft}$$

Major Points

- Develop lessons around **Big Ideas** and **Concepts**.
- Cluster the **Expectations**.
- Instruct across **Strands**.
- Examine **Expectation's** progression.
- Use a variety of teaching strategies.

Resources for Mathematics

- Kilpatrick, J., Swafford, J., Findell, B. (Eds.) (2001). Adding it up. Washington, DC: National Academy Press.
- Ma, L. (1999). Knowing and teaching elementary mathematics. Mahwah, NJ: Lawrence Erlbaum, Inc.
- NCTM. (2000). Principles and standards for school mathematics. Reston, VA: Author.

What do the Mathematics GLEs mean for your work?

- How well is your mathematics curriculum aligned to the GLEs?
- What step(s) must you take to ensure curriculum alignment?
- What will you do to support alignment of instruction? What do teachers need?
- What are your concerns and/or questions?

We suggest that district staff

- Take inventory of existing objectives, comparing them to Grade-Level Expectations
- Consider grade placement of local objectives relative to GLEs
- Become familiar with Concepts, Strands, Big Ideas
- Examine GLEs vertically and horizontally

Grade-Level Expectations: DESE's Next Steps

- **Support**
 - Comprehensive professional development
 - Model curriculum development
 - Glossaries, Practice Tests, Clarifications/Elaborations
- **Test Refinement**
 - Math--grades 4, 8, 10
 - Communication Arts--grades 3, 7, 11
- **Test Construction**
 - Math--grades 3, 5, 6, 7
 - Communication Arts--grades 4, 5, 6, 8

No Child Left Behind Act and MAP

- NCLB requires “expanded” MAP that is part of a single system of accountability
- To comply, MAP must
 - include CA and MA grade-level assessments at 3-8 and at high school
 - new CA and MA assessments will be similar to (and just as rigorous as) existing tests; grade-level tests replace some grade-span tests
 - all CA and MA tests will include MC and CR items; PEs stay at MA 4, 8, 10 and CA 3, 7, 11
 - National Assessment of Educational Progress (NAEP) results will be used to verify MAP results

Time Line for Implementing NCLB Assessment Requirements

2002-2003

- Administer CA and MA assessments at least once in elementary, middle, and high school
- Write and disseminate grade-level expectations for MA, CA, SC (also SS)
- Design comprehensive “NCLB-compliant” assessment system that includes existing and new MA, CA tests and revised MAP-A
- Begin development of new MA, CA assessments*
- Confirm achievement levels

Time Line (continued)

2003-2005

- Administer CA and MA assessments at least once each year in elementary, middle, and high school*
- Provide PD re grade-level expectations
- Continue development of new CA, MA assessments
- Revise existing CA, MA assessments as necessary
- Revise MAP-A

Time Line (continued)

2003-2005

- Pilot and field test revised MAP-A
- Pilot and field test new CA, MA items
- Create new CA, MA assessment forms
- Determine cut scores and define achievement levels for CA, MA assessments and for MAP-A

Time Line (continued)

2005-2006

- Administer assessment system that now includes additional tests (MA 3-8, 10; CA 3-8, 11; revised MAP-A)
- Compile technical information for new assessment-system components (CA, MA, MAP-A)

Time Line (continued)

2006-2007

- Administer “expanded” assessment system (that includes additional MA and CA tests for grades 3-8 and high-school grades) and also includes revised MAP-A

Time Line (continued)

2007-2008

- Assessment system must now also include yearly SC assessments for elementary, middle-school, and high-school levels

*MAP and GLEs

- MA and CA tests administered in 2006 include items derived directly from GLEs
- MA and CA tests administered in 2004 and 2005 will certainly reflect GLEs because the tests as well as the GLEs are aligned to the Show-Me Standards

MAP and District Assessment Programs

- What do the changes to the MAP mean for your district's standardized testing program?
- What implications do the changes in standardized assessment have for classroom tests?

For more information . . .

- Call the Curriculum and Assessment Staff at 800/845-3545 or 573/751-2625, or e-mail us.
- Visit our Web sites:

<http://www.dese.state.mo.us/divimprove/curriculum>

<http://www.dese.state.mo.us/divimprove/assessment>